

Notice of Allowability

Application No.

10/665,443

Examiner

John D. Lee

Applicant(s)

SUN ET AL.

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1-21.
3. ☒ The drawings filed on 20 September 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

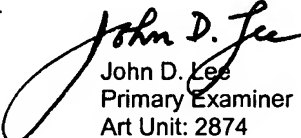
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 0903
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


John D. Lee
Primary Examiner
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EXAMINER'S AMENDMENT

An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR § 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Claim 21 has been rewritten as indicated.

21. (Amended) The harmonic generation microscopy as claimed in claim 12, wherein the wavelength of the laser beam causes no autofluorescence on the sample[:].

The change to claim 21 is purely grammatical in nature and places a period at the end of the claim rather than a colon. Such minor change does not require consultation with applicant's representative (MPEP § 1302.04).

EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

The following is an Examiner's Statement of Reasons for Allowance: The prior art fails to disclose or suggest a system or method for harmonic generation microscopy which utilizes *both* second harmonic wave observation *and* third harmonic wave observation. This is done by splitting the observation beam arising from a sample illuminated with a fundamental laser wavelength into a second harmonic wave component and a third harmonic wave component, and separately detecting each of these components so as to respectively generate first and second corresponding electrical signals which are subsequently processed to form an image of the sample. The prior art

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(discussed below) discloses certain portions of the claimed system and method, but does not disclose or suggest the entirety thereof. All pending claims (i.e. claims 1-21) are thus allowed.

DISCUSSION OF THE CITED PRIOR ART

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 4,063,804 to Hellwarth et al discloses a second harmonic generation microscopy system and method, and suggests the use of harmonics other than the second harmonic (column 2, lines 27-30). There is no suggestion, however, of splitting an observation beam from a sample into *both* second harmonic wave observation *and* third harmonic wave observation beams. U.S. Patent Application Publication 2004/0135079 A1 to Moellmann discloses a harmonic generation microscopy system and method which can involve second and/or third harmonic light (see paragraph [0027]), but there is no suggestion of such light being generated by splitting an observation beam from a sample into *both* second harmonic wave observation *and* third harmonic wave observation beams. U.S. Patent 6,693,257 to Tanaka describes the use of a beam splitter to separate second harmonic wave light from third harmonic wave light. There is no mention, however, as to how this may be applied to harmonic generation microscopy systems and methods.

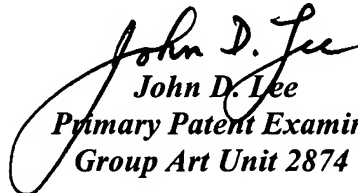
All of the prior art documents cited by applicant in the Information Disclosure Statement filed on September 20, 2003, have been considered and made of record. Note the attached initialed copy of form PTO-1449. Like the prior art discussed above, these documents disclose certain portions of the claimed system and method, but do not

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disclose or suggest the entirety thereof. For example, U.S. Patent 5,828,459 to Silberberg and the Barad et al article disclose third harmonic (*only*) generation microscopy systems and methods.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning the merits of this communication should be directed to Examiner John D. Lee at telephone number (571) 272-2351. The Examiner's normal work schedule is Tuesday through Friday, 6:30 AM to 5:00 PM. Any inquiry of a general or clerical nature (i.e. a request for a missing form or paper, etc.) should be directed to the Technology Center 2800 receptionist at telephone number (571) 272-1562, to the technical support staff supervisor (Team 8) at telephone number (571) 272-1564, or to the Technology Center 2800 Customer Service Office at telephone number (571) 272-1626.


John D. Lee
Primary Patent Examiner
Group Art Unit 2874